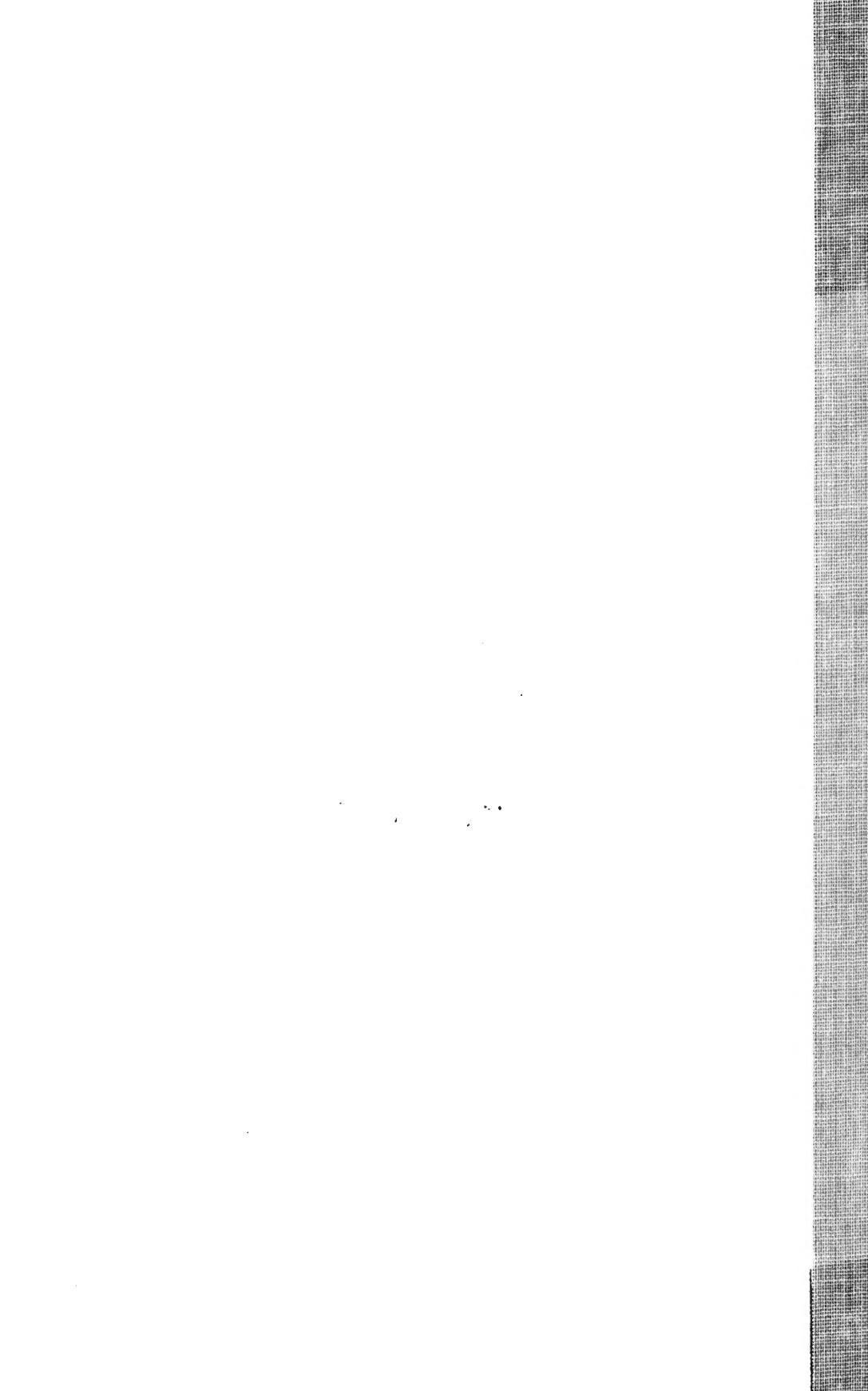


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# FIELDIANA Zoology

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## Notes on Bats (Chiroptera: Vespertilionidae) New to the Faunal Lists of Afghanistan and Iran

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COASTAL PLAINS CHAPTER

GEORGIA CONSERVANCY, 127 ABERCORN ST., SAVANNAH

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### ABSTRACT

*Myotis muricola*, *Vespertilio murinus*, and *Pipistrellus savii* are reported from Afghanistan for the first time and the first record of *Nyctalus leisleri* from Iran is given. Both *N. leisleri* and *N. montanus* are shown to occur in Afghanistan and an additional record of *P. savii* from Iran is reported. *Barbastella leucomelas darjellingensis* is shown to occur in Afghanistan and *B. l. leucomelas* is shown to occur in Iran, extending the range of the nominate subspecies about 1,700 km. to the north northeast.

### INTRODUCTION

In the course of examining the Chiroptera collected by the W. S. and J. K. Street Expeditions of 1962-63 and 1968 to Iran and of 1965 to Afghanistan, we have discovered several specimens which represent significant range extensions and which are new to the faunal lists of these two countries. Unless otherwise noted, all specimens are in the collections of Field Museum of Natural History (FMNH), in Chicago.

A gazetteer of localities is provided in Table 1, including coordinates and the approximate elevations in meters of the collecting sites. Provincial designations and spelling of place names follow

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the *Times Atlas of the World*, Comprehensive Edition (1967, Edinburgh). General descriptions of the habitat in the regions from which these bats were collected are provided by Lay (1967) and Hassinger (1968). Their descriptions are grouped under headings of major collecting sites; these sites are also referenced in Table 1.

## SPECIES ACCOUNTS

### **Myotis muricola caliginosus** (Tomes)

*Vespertilio muricola* Gray, 1846, Cat. Hodgson Coll. B. M. 4. Type locality: Nepal.

*Vespertilio caliginosus* Tomes, 1859, Proc. Zool. Soc., London 1859, p. 73. Type locality: India.

This species is known from Nepal to Bhutan Duars, Tenasserim, and Laos (Ellerman and Morrison-Scott, 1951, p. 139) and the Malay Peninsula, Sumatra, Sipora Island, Borneo, Java, and Bali (Chasen, 1940, p. 49). The form *caliginosus* is known from Simla and Sikkim (Ellerman and Morrison-Scott, 1951, p. 139). The following record extends the known range of the species by approximately 800 km. to the northwest and is the first known occurrence of the species in Afghanistan.

On October 17, 1965, the Street Expedition to Afghanistan collected an adult male *M. m. caliginosus* from near the village of Kamu (table 1). The bat was shot while flying at dusk above a forest dominated by oak, *Quercus baloot*.

Tate (1941, p. 544) and others have treated *muricola* as a subspecies of *M. mystacinus*, but Findley (1972, p. 43) considered them distinct species based on a series of morphological criteria and the sympatric occurrence of *muricola* and *mystacinus* in Nepal. Findley also considered *caliginosus* to belong to the *muricola* group. We tentatively follow this arrangement here, although *caliginosus* may prove to be equivalent to *M. m. muricola*. Measurements of the Kamu specimen (FMNH 102759) are presented in Table 2.

### **Vespertilio murinus murinus** Linnaeus

*Vespertilio murinus* Linnaeus, 1758, Syst. Nat., 10th ed. 1, p. 32. Type locality: Sweden.

This species occurs in the central latitudes of the Palearctic, from France and southern Norway in the west to the vicinity of Vladivostok, USSR in the east (Wallin, 1969, p. 308, fig. 36) and from ap-

TABLE 1.—Gazetteer

Locality	Co-ordinates	Elevation (meters)	Additional habitat description in:
<b>AFGHANISTAN</b>			
Belchiragh, Fariab Province	35° 50'N 65° 11'E	1225	Hassinger (1968, p. 65; Maimana)
Jalalabad, Nangarhar Province	34° 26'N 70° 25'E	750	Hassinger (1968, p. 69; Jalalabad)
Kamu, Konar Province	35° 24'N 71° 23'E	1350	Hassinger (1968, p. 68; Kamdesh)
Sayedabad, Bamiyan Province	34° 49'N 67° 49'E	2500	Hassinger (1968, p. 60; Shibar Pass)
Shombul,* Bamiyan Province	34° 52'N 68° 03'E	2440	Hassinger (1968, p. 60; Shibar Pass)
<b>IRAN</b>			
Jazireh-ye-Quyun, Azarbaijan-e-Khavari Province	37° 28'N 45° 38'E	1200	Lay (1967, p. 91; Rezaiyeh)
Sama, Mazanderan Province	36° 25'N 51° 25'E	1300	Lay (1967, p. 96; Sama)
Sang-e-Sar, Mazanderan Province	35° 43'N 53° 19'E	1600	Lay (1967, p. 101; Semnan)

\*Co-ordinates for Shombul given by Hassinger (1968, p. 79) are incorrect.

proximately 60°N in the USSR (Bobrinskii et al., 1965, map 34) and Europe (van den Brink, 1968, p. 67), south to Kashmir (True, 1894, p. 15) and approximately 31°N in western Iran (DeBlase, 1971, p. 12). The nominate form *V. m. murinus* occurs in the western portion of the range of the species and extends east to Mongolia (Wallin, 1969, p. 308, fig. 36). The specimen cited below is the first reported occurrence of this species in Afghanistan.

The Street Expedition to Afghanistan shot a single adult male 8 km. northwest of Belchiragh (table 1), on September 12, 1965. The bat was flying after dark above a fallow wheat field in an irrigated valley. This specimen (FMNH 102764) does not differ substantially from the fur color, measurements (table 2), penis morphology, and position of maximum tragus width given by Wallin (1969, p. 303) for the nominate subspecies.

### ***Nyctalus leisleri* Kuhl**

*Vesptilio leisleri* Kuhl, 1818, Ann. Wetterau Ges. Naturk., 4(I), p. 46. Type locality: Hanau, Hessen, West Germany.

This monotypic species is known from scattered areas in Western Europe including England, Ireland, Netherlands, France, Switzerland, Germany, Spain, Poland, Roumania, and in Russia, from central Volga and Moscow Province to the Caucasus (Ellerman and Morrison-Scott, 1951, p. 159). Gaisler (1970, p. 36) reported additional specimens from Kashmir and India (Punjab). The following specimens represent the first definite records of the species from both Iran and Afghanistan.

On August 18 and 20, 1962, members of the first Street Expedition to Iran collected three noctules from above a stream near Sama (table 1) which Lay (1967, p. 144) identified as *N. noctula*. We have re-examined these (FMNH 96760-62) and found them to agree in size (table 2), pelage, and dental characters with *N. leisleri*. The re-identification of the Sama specimens does not remove *N. noctula* from Iran's faunal list, as earlier specimens of *N. noctula* were reported from Iran by Thomas (1907, p. 197) and Bianki (1917, p. viii) and one of us (AFD) has verified these identifications.

Meyer-Oehme (1965, p. 46) collected a noctule from Ismael Khel, Paktia Province, Afghanistan that he provisionally identified as "*Nyctalus* (?) *leisleri montanus*." He stated that the specimen was like that from North India described by Barrett-Hamilton (1906, p. 99) as *Pterygistes montanus*, and that the dorsal coloration was "roet-

TABLE 2. External and cranial measurements\* of specimens discussed in text.

Specimen	L	T	HF	E	Tr	FA	GtL	CBL	ZB	IC	BB	C-M <sup>3</sup>	C-M <sub>3</sub>	M
<i>Myotis muricola caliginosus</i>														
FMNH 102759 ♂ Kamu, Afghanistan	79	32	7	14.5	8	34	13.1	12.6	8.1	3.5	6.5	5.1	5.5	9.7
<i>Vesperugo m. murinus</i>														
FMNH 102764 ♂ Belchiragh, Afghanistan	106	48	10	16	6	46	15.6	15.4	10.0	4.3	7.9	5.6	5.7	11.3
<i>Nyctalus leisleri</i>														
FMNH 96760 ♀ Sama, Iran	106	44	10	16	—	44.8	15.7	15.3	10.3	4.6	8.5	5.5	6.1	11.6
FMNH 96761 ♀ Sama, Iran	106	43	9	17	—	42.8	16.0	15.0	—	4.5	8.3	5.3	6.0	—
FMNH 96762 ♀ Sama, Iran	112	49	10	17	—	45.2	15.9	15.6	10.3	4.7	8.6	5.7	6.2	11.7
FMNH 102760 ♂ Kamu, Afghanistan	107	35	10	16	7	43.5	15.9	15.9	10.6	4.7	8.6	5.7	6.3	11.8
<i>Nyctalus montanus</i>														
FMNH 102502 ♀ Jalalabad, Afghanistan	111	45	11	15.5	8	44	16.3	16.0	11.5	5.0	8.6	6.5	7.8	13.1
<i>Pipistrellus sonii caucasicus</i>														
FMNH 102503 ♂ Shombul, Afghanistan	83	32	7	13	6	35	13.2	12.7	8.2	3.7	6.8	—	4.4	9.0
FMNH 102762 ♀ Belchiragh, Afghanistan	86	38	8	15	7	35	13.8	13.1	—	3.4	6.9	4.5	5.0	9.3
FMNH 102758 ♂ Kamu, Afghanistan	82	34	8	—	—	39	—	—	—	3.7	—	4.6	5.0	9.2
USNM uncat. ♂ Sayedabad, Afghanistan	—	—	—	7.8	—	35.8	13.6	12.8	8.4	3.6	6.7	4.4	5.2	9.8
UMMZ 117578 ♀ Jazirreh-ye-Quyun, Iran	—	—	—	6	—	32.0	13.0	12.6	—	3.7	7.3	4.6	4.7	9.1
<i>Barbastella l. leucomelas</i>														
FMNH 96766 ♀ Sang-e-Sar, Iran	117	58	11	19	—	44.4	16.0	14.9	8.1	3.8	7.8	4.9	5.4	10.0
<i>Barbastella l. darjilingensis</i>														
FMNH 102774 ♀ Kamu, Afghanistan	107	51	8	21	12	43	15.6	14.8	7.5	4.1	7.3	5.0	5.9	—

\*Measurement abbreviations and techniques follow Harrison (1964, pp. 1-2) except for HF (hind foot) which here includes the length of the claw (c.u.), and Tr (tragus) which is given as the length from base to tip.

lich mittelbraun" and thus presumably monochromatic. In a later paper, Meyer-Oehme (1968, p. 98) identified the same specimen as *N. leisleri* without further comment. The dorsal fur color of true *N. leisleri* is bicolored whereas that of *N. montanus* is monochromatic (Gaisler, 1970, p. 35). Thus the identification of Meyer-Oehme's specimen is open to question.

The Street Expedition to Afghanistan collected an adult female *N. leisleri* (FMNH 102760) from Kamu (table 1), on October 16, 1965 and a female *N. montanus* (FMNH 102502) from 7 km. north of Jalalabad (table 1) on October 19, 1965. Thus the presence in Afghanistan of both species of small noctules is demonstrated.

Measurements of the Street Expedition specimens are given in Table 2.

### **Pipistrellus savii caucasicus (Satunin)**

*Vespertilio savii* Bonaparte, 1837, Faun. Ital. I, fasc. 20. Type locality: Pisa, Italy.

*Vesperugo (Vesperus) caucasicus* Satunin, 1901, Zool. Anz., 24, p. 462. Type locality: Tiflis, Caucasus.

This species is known from Morocco, Algeria, the Canary Islands, and possibly the Cape Verde Islands (Hayman and Hill, 1971, p. 39), most of the Mediterranean region in Europe from southern Spain to Greece (van den Brink, 1968, p. 53), Turkey (Osborn, 1963, p. 216), and Lebanon (Harrison, 1964, p. 163). In the USSR it is known from several localities in the Crimea and from scattered records from the Black Sea east to Tadzhikistan (Bobrinskii et al., 1965, map 32). Neuhauser (1970, p. 319) reported it from India and Ellerman and Morrison-Scott (1951, p. 169) included Mongolia, Sikkim, Burma, and Assam. Farhang-Azad (1969, p. 730) and DeBlase (1971, p. 11) reported specimens from Iran. The specimens cited below constitute the first records of this species from Afghanistan.

The subspecies *caucasicus* occurs in the Crimea, the Caucasus, Turkestan, (Ellerman and Morrison-Scott, 1951, p. 170) and Lebanon (Harrison, 1964, p. 163).

The Street Expedition to Afghanistan collected three *P. s. caucasicus* in 1965. A male (FMNH 102503) was shot on July 25 as it flew over a narrow valley cultivated in wheat and adjacent to a stream bordered by *Populus* sp. at Shombul (table 1), on September 12 a female (FMNH 102762) was shot 8 km. northwest of Bel-

chiragh (table 1), and a second male (FMNH 102758) was shot on October 15 near Kamu (table 1).

On August 30, 1968 a camp aide to Dr. K. Kawata collected a male *P. s. caucasicus* at Sayedabad (table 1), 4 km. southeast of Bamiyan, Afghanistan. This specimen is now in the collections of the United States National Museum of Natural History (USNM uncataloged).

Farhang-Azad (1969, p. 731) reported seven *P. savii* collected at Chelmir, in northern Khorasan Province, Iran and DeBlase (1971, p. 11) reported two specimens collected by the 1968 Street Expedition to Iran, at Maku, Azarbaijan-e Bakhtari Province and Sar Dasht, near Lordegan, Esfahan Province. On November 11, 1969, Youton Botoloff mistnetted a female of this species on Jazireh-ye-Quyun (table 1), an island in Lake Rezaiyeh, Azarbaijan-e Khavari Province, Iran. This specimen is now in the collections of the University Michigan Museum of Zoology (UMMZ 117578).

### **Barbastella leucomelas (Cretzschmar)**

*Vespertilio leucomelas* Cretzschmar, 1826, *In Rüppell, Atlas Reise nördl. Afrika Säugeth.*, p. 73, pl. 28b. Type locality: Arabia Petraea (=Sinai).

*Plecotus darjelingensis* Hodgson, 1855, *In Horsfield, Ann. Mag. Nat. Hist.*, p. 103. Type locality: Darjeeling, North-Eastern India.

This species occurs in Sinai and, questionably, in Eritrea and Senegal (Hayman and Hill, 1971, p. 46). In southern and eastern Asia it ranges widely from the Caucasus to Indo-China (Ellerman and Morrison-Scott, 1951, p. 176) and Japan (Wallin, 1969, p. 337).

Harrison (1964, p. 178), in his treatment of Arabian barbastelles, suggested that *B. leucomelas* might be no more than a pale desert subspecies of *B. barbastellus*. However, as the material available to him was old and imperfect, he deferred a decision until more specimens could be collected. Kock (1969, pp. 176-179) considered the two forms conspecific, but maintained *leucomelas* as a subspecies. Kuzyakin (*in* Bobrinskii et al., 1965, p. 100) reported that the ranges of *barbastellus* and *leucomelas* are sympatric in Caucasia and Transcaucasia, and that in these areas the forms are distinct. On this basis, we continue to regard the two forms as separate species, while recognizing that *B. l. leucomelas* and *B. l. darjelingensis* may eventually prove to be only races of *B. barbastellus*.

There are two currently recognized subspecies of *B. leucomelas*, the nominate form and *B. l. darjelingensis*, but the differences between the two have not been made entirely clear. Cretzschmar (*in*

Rüppell, 1826, pl. 28b) pictured the type of *B. leucomelas* from Arabia Petraea (= Sinai) with a dark blackish-brown throat and breast region fading to a lighter black-brown washed with cream in the mid-abdominal region, which in turn fades to a cream washed with straw brown in the inguinal region. Harrison (1964, p. 177) described the coloration of a specimen (BM 7.1.1.346) from the coast of Arabia and his description closely approximates the type. A specimen (fig. 1, FMNH 96766) from Sang-e-Sar (table 1), Iran, reported by Lay (1967, p. 147) as *B. leucomelas*, has both dorsal and ventral colorations which closely resemble the illustration of the type by Cretzschmar, the descriptions and photograph of *B. leucomelas* given by Harrison (1964, pp. 166, pl. 51a; 177), and color photographs of the coast of Arabia specimen taken by one of us (AFD). We conclude that the nominate subspecies can be reported from the type locality, the coast of Arabia, and northern Iran. The presence of *B. l. leucomelas* in Iran extends the known range of the subspecies to the north northeast by approximately 1,700 km.; the specimen is also the first of the subspecies to be reported in almost a century.

The Street Expedition to Afghanistan collected a female *B. leucomelas* (FMNH 102774) from Kamu (table 1) on October 16, 1965. The specimen exhibits a coloration strikingly different from the Arabian and Iranian specimens (fig. 1). The dorsal aspect is almost totally black, with only a slight hint of silver color at the tips of the fur. The ventral region is only slightly paler than the dorsum; the throat and chest are blackish-brown, and the mid-abdomen has slight indications of white tips. Only in the post-inguinal region is the color more white than black. Hodgson's (in Horsfield, 1855, p. 103) description of the type of *B. l. darjelingensis* from Darjeeling states that the color is deeper than "*Plecotus (?) homochrous*," inclining to blackish. Comparisons of the Afghan specimen with five from India (two from Mussoorie, FMNH 48571 and 48573, and three from Darjeeling, FMNH 82737, 82738, and BM 17.4.23.8) indicate that the Afghan form exhibits the usual coloration for *B. l. darjelingensis*.

We can detect no substantial difference other than coloration (see table 2) between *B. l. leucomelas* and *B. l. darjelingensis*, but the differences in color are striking and apparently so uniform that subspecific distinction is warranted.

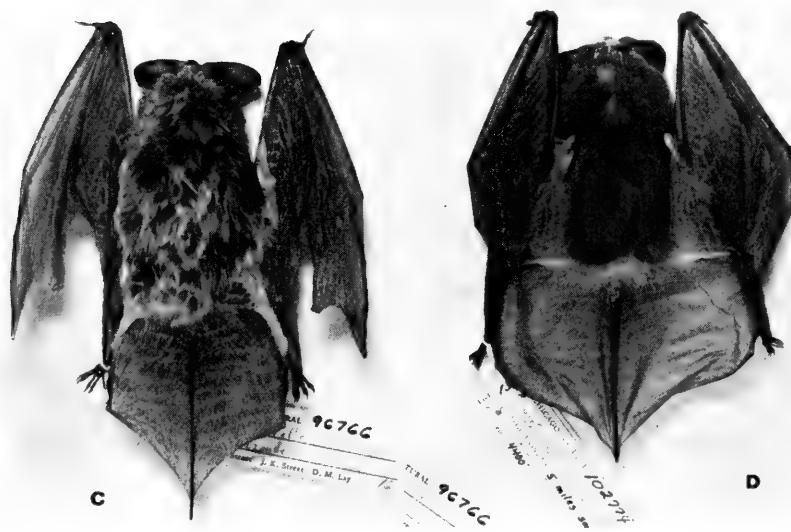
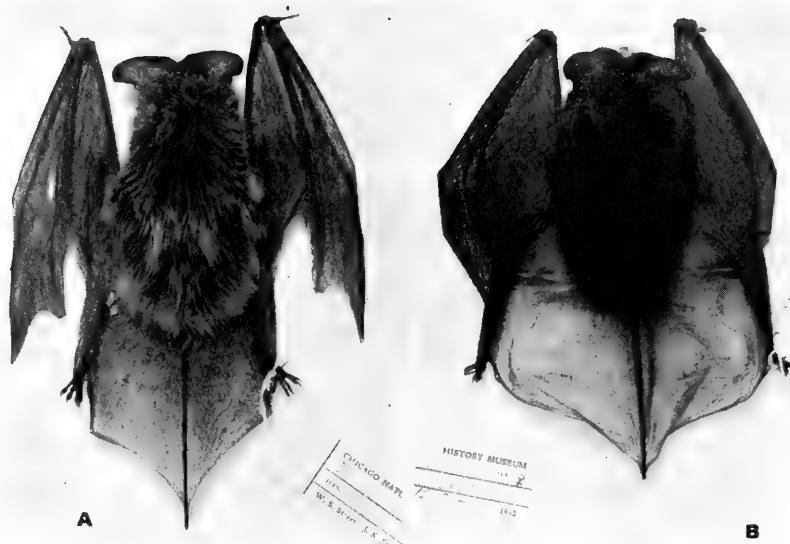


FIG. 1. *Barbastella l. leucomelas*, FMNH 96766 (A, dorsal; C, ventral) from Sang-e-Sar, Iran and *B. l. darjelingensis*, FMNH 102774 (B, dorsal; D, ventral) from Kamu, Afghanistan.

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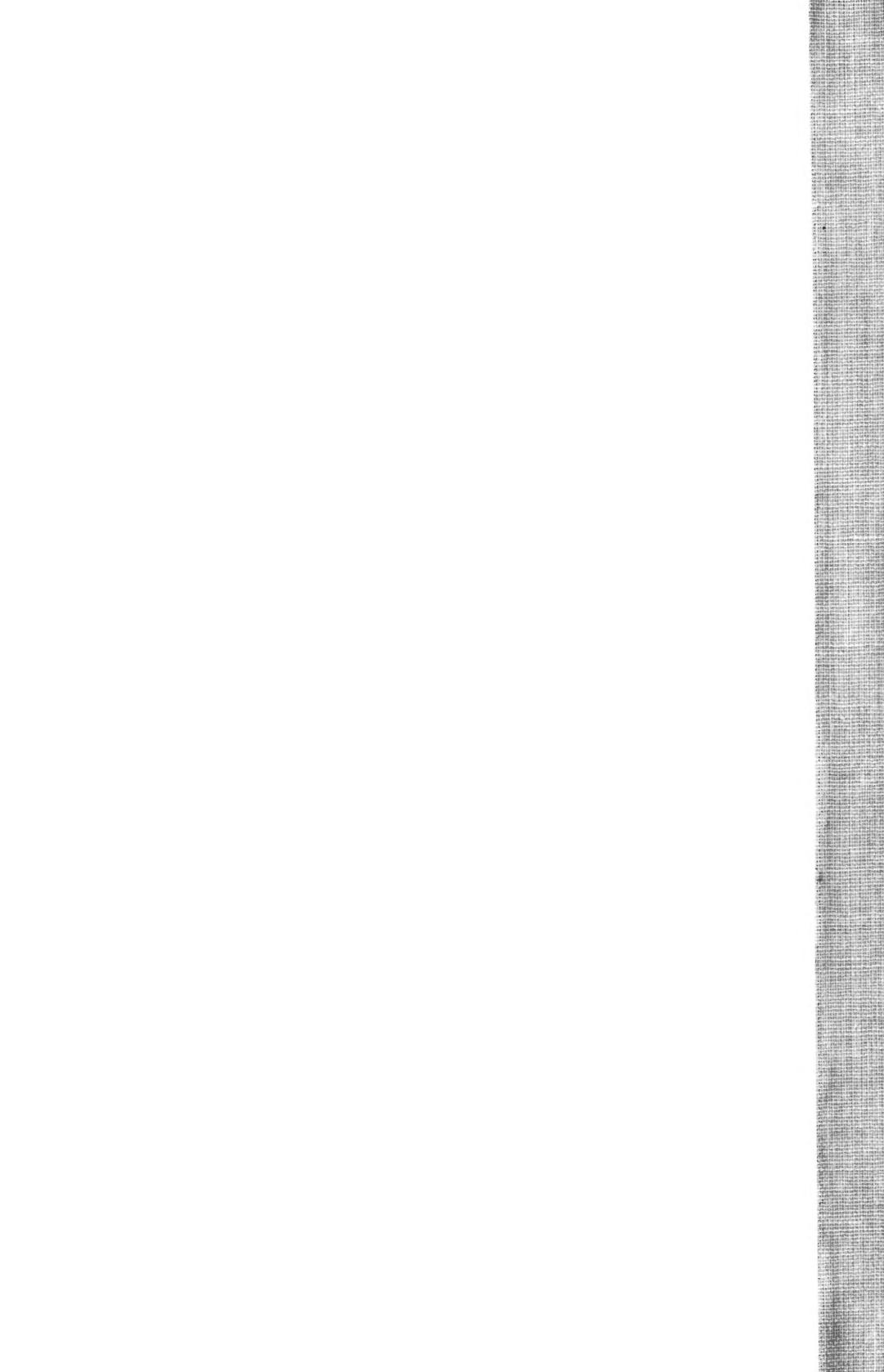
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